

EXHIBIT 1

[Excerpted]

October 1, 2024

Matthew Berkowitz mberkowitz@reichmanjorgensen.com
Partner
Reichman Jorgensen Lehman & Feldberg LLP
100 Marine Pkwy, STE 300
Redwood City, CA 94065

RE: *Valtrus Innovations Ltd. v. NTT Data Services, LLC et al, Case No. 2:24-cv-00361-JRG (Lead Case); Valtrus Innovations Ltd. et al, Digital Realty Trust, Inc. et al, Case No. 2:24-cv-00535-JRG (Member Case)*

Dear Matthew:

I write on behalf of Vertiv Corporation (Vertiv”) to request that Valtrus Innovations (“Valtrus”) and Key Patent Innovations inventor, (“KPI”) (collectively, “Plaintiffs”) dismiss with prejudice their claims against defendants Digital Realty Trust, Inc. and Digital Realty Trust, L.P. (collectively, “DRT”) based on their use of Vertiv thermal management systems and components. As set forth below, those claims are objectively baseless and unreasonable and make this an exceptional case pursuant to 35 U.S.C. § 285. In the event that Plaintiffs do not dismiss these claims, Vertiv will seek recovery of attorneys’ fees in this action.

Plaintiffs’ disclosed infringement theories reveal a troubling pattern of applying Plaintiffs’ patent claims far beyond any reasonable assessment of their actual legal scope in an effort to harass Vertiv’s customers with baseless litigation over Vertiv equipment that plainly does not infringe. As discussed below, Plaintiffs’ infringement theories related to Vertiv equipment are entirely frivolous because Vertiv’s equipment simply does not meet the required claim elements of the asserted patents, and Plaintiffs fail to identify any aspect of Vertiv’s equipment that could plausibly meet those claim elements. Plaintiffs’ theories lack merit for the additional reason that those theories target features and capabilities of Vertiv equipment present in earlier models sold by Vertiv’s predecessor, Liebert Corporation, many years before the applicable priority dates of Plaintiffs’ patents. Any rudimentary investigation of the background of those products would have revealed ample publicly available documentation demonstrating that the accused aspects predate Plaintiffs’ patents such that Plaintiffs’ overreaching infringement theories run the patents straight into the prior art. Vertiv has produced and identified in its Invalidity Contentions detailed technical documentation as well as evidence of sales and use of those prior art systems in the United States and has identified in its Initial Disclosures individuals who can corroborate these matters. Vertiv has also produced substantial additional prior art patents and printed publications that anticipate or render obvious the asserted claims. The disclosed evidence and analysis demonstrate invalidity under an accurate assessment of claim scope, and that showing of invalidity is even more irrefutable under Plaintiffs’ unduly broad readings of the claims.

Plaintiffs’ pursuit of specious infringement theories against DRT under patents that have no relevance to any design or operational features of Vertiv equipment, and where the accused

features were present in versions of the same or similar equipment that are prior art to the asserted patents, is an abuse of the litigation process. Plaintiffs should immediately dismiss their action against DRT insofar as it relates to DRT's use of Vertiv equipment.

By way of example only and without limitation or waiver:

1. U.S. Patent No. 7,931,870 (“the ‘870 patent”)

The ‘870 patent claims a method requiring “calculating indices of air re-circulation” for one or more heat dissipating device where the required calculation is based upon “detected inlet temperatures, outlet temperatures and supplied air temperatures.” The claimed method requires additional steps involving varying settings related to air flow to the heat dissipating device(s) and evaluating components based on how the calculated indices of air re-circulation change with the varied settings. Further, the ‘870 patent identifies certain mathematical formulas to calculate the claimed indices of air re-circulation.

Plaintiffs’ infringement contentions cite to arbitrary features of Vertiv’s iCOM control software (multiple temperature sensor inputs, fan speed control, Teamwork mode, etc.), none of which have any relevance to the calculations or additional evaluation steps required by the ‘870 claims. iCOM does not calculate the claimed indices of air re-circulation and does not in any way facilitate practice of the claimed evaluation methods utilizing any mathematical formulas, including those identified in the ‘870 patent. Because iCOM does not operate in this manner, Plaintiffs’ claim charts fail to identify any manner how iCOM “calculat[es] indices of air re-circulation” as required by the claims. Accordingly, Plaintiffs’ theory that iCOM infringes the ‘870 patent is baseless, and the claim charts included in Plaintiffs’ infringement contentions against DRT demonstrate that Plaintiffs have never had any good faith basis to allege infringement of this patent.

Plaintiffs’ claim is exceptional for the additional reason that the original owner, Hewlett-Packard Development Company, LP (“HPDC”), applied for the patent despite the inventors having previously published the identical mathematical formulas and data center evaluation techniques in multiple journal articles. As laid out in detail in Vertiv’s Invalidity Contentions (*see* Exhibits D-7 (Sharma I) and D-8 (Sharma II) thereof), those articles are invalidating prior art to the claims of the ‘870 patent. The failures by HPDC and the inventors to submit this known prior art to the USPTO also raises serious issues of fraud and inequitable conduct. Courts will award fees where a plaintiff continues to assert patents procured via bad faith conduct, such as failing to disclose material prior art during prosecution, despite notice of the conduct. *See, e.g., Howmedica Osteonics Corp. v. Zimmer, Inc.*, No. 05–897 (WHW)(CLW), 2018 WL 2378406, *3-*14 (D.N.J. May 23, 2018).

2. U.S. Patent No. 6,718,277 (“the ‘277 patent”)

For similar reasons, Plaintiffs lack any good faith basis for their allegations that DRT's use of

iCOM controls infringes the ‘277 patent. iCOM does not provide the methodology claimed in the ‘277 patent involving “generating an empirical atmospheric map” from temperatures sensed within a building, comparing the empirical map to “a template atmospheric map,” followed by “identifying pattern differentials between said empirical and template atmospheric maps.” The specification makes clear that the empirical map is a visual map representing current sensed conditions and that the template map represents optimal conditions. *See, e.g.*, ‘277 patent at 6:1–3 (“The thermal mapping software converts the point-specific temperature sensor data into information by generating an empirical thermal map therefrom . . .”); 6:28–29 (“The thermal map also provides a powerful visual tool for a data center operator.”); 6:37–41 (“The template thermal map could also be termed a master, or model thermal map. The template basically represents a thermal map of an optimally operating data center cooling system.”).

The claims expressly require a comparison of the two maps to identify pattern differentials between them, and HPDC emphasized this difference over the prior art during prosecution. *See, e.g.*, September 16, 2003 Amendment at p. 12 (distinguishing Kiser reference on basis that “[Kiser’s] step of comparing current conditions to stored desired condition data is not equivalent to comparing a generated empirical map to a template atmospheric or thermal map”); *see also id.* at p. 14 (emphasizing that “the pattern differentials cited in these claims pertain to differentials in patterns formed in a comparison between the generated empirical map and the template empirical map” and distinguishing Kiser as “pertain[ing] to a comparison of noted conditions with desired parameters which substantially differs from a comparison of pattern differentials from empirical maps.”).

Plaintiffs’ infringement contentions ignore these requirements of the ‘277 patent claims and demonstrate that those contentions are frivolous and sanctionable. *See Triune Star, Inc. v. Walt Disney Co.*, 2008 WL 5068943, *9 (C.D. Ill. 2008) (finding sanctionable conduct where plaintiff ignored disclaimer statements made during prosecution in order to advance frivolous infringement theories). Their claim chart against DRT inexplicably refers to iCOM’s display of current temperature readings for both the empirical map and the template map claim elements, which both conflates and ignores the substance of these two distinct requirements of the claims. The contentions fail to cite any evidence that iCOM compares an empirical map to a template map to identify pattern differentials, a capability that iCOM simply does not have. The claim chart refers instead to alarm notifications that are triggered when current conditions are outside of preset ranges, which does not involve any comparison of maps and is akin to the conventional approach that HPDC distinguished during prosecution of the ‘277 patent. This infringement theory is frivolous.

Furthermore, even if the alarm notification feature of iCOM were relevant to the ‘277 patent claims (it is not), that feature is based on capabilities of products sold by Liebert long before the ‘277 patent’s priority date. As established in Vertiv’s Invalidity Contentions, the Liebert SiteScan™ datacenter monitoring tool displayed various conditions of a data center, including graphical floorplans with color-coded monitoring and alarm visuals showing current conditions compared to preset desired conditions. *See Invalidity Contentions*, Exs. A-8 (SiteScan Product Brochure); A-9 (SiteScan User Manual); A-10 (SiteScan System). Accordingly, to the extent

Plaintiffs construe the ‘277 patent broadly enough to cover the alarm notifications, such construction would render the claims invalid as set forth in the Invalidity Contentions. *Id.* This further demonstrates the baseless nature of Plaintiffs’ claims.

[Excerpted]

4. U.S. Patent No. 6,862,179 (“the ‘179 patent”)

Plaintiffs similarly cannot identify any legitimate theory of infringement with respect to the ‘179 patent and, therefore, the claims directed to DRT’s use of Vertiv technology should be dismissed with prejudice.

The ‘179 patent narrowly discloses and claims an apparatus and methods involving the use of “partitions” to divide a data center into “zones” and manipulating a “controllable partition” to vary the supply of cooled air in response to a temperature of a rack within a zone falling outside of a desired range. Vertiv does not manufacture or sell any equipment relevant to the ‘179 patent, and Plaintiffs have not identified any such Vertiv equipment in their infringement contentions against DRT. The contentions refer instead to the “fluid economizer” feature of Vertiv’s DS environmental control units. That feature has nothing to do with dividing a data center into zones or manipulating controllable partitions to vary the flow of cooled air to the zones in response to sensed temperature conditions.

As the documentation cited by Plaintiffs indicates, the fluid economizer technology is a feature of Vertiv’s compressed refrigerant cooling units. It provides a second cooling coil supplied with chilled water or a water/glycol solution to reduce the use of compressed refrigerant (and energy intensive compressor operation) to bring the room air temperature down to the temperature setpoint. Plaintiffs point to a motorized ball valve that controls the flow of chilled water/glycol to the economizer coil in relation to the claimed “controllable partition.” That reading of the ‘179 patent claims is objectively baseless in view of the claim language and the remainder of the intrinsic record. HPDC did not invent and was not awarded a patent on the use of a control valve to regulate the flow of chilled water/glycol to an air conditioning cooling coil in response to sensed temperature conditions. A “reasonable pre-filing investigation . . . requires objective evaluation of the claim terms” that considers “the plain language of the disclosure.” *Eon-Net LP v. Flagstar Bancorp*, 653 F.3d 1314, 1329 (Fed. Cir. 2011).

Plaintiffs have advanced this groundless infringement theory while apparently oblivious to the fact that the fluid economizer feature with its associated temperature controls was originally developed and patented by Liebert in the 1970s. *See, e.g.*, Vertiv Invalidity Contentions, Ex. C-13 (U.S. Patent No. 4,270,362 to Lancia). This feature has been available in Liebert’s commercially sold environment control units for decades. Indeed, the descriptions and diagrams from current product manuals cited in Plaintiffs’ infringement contentions mirror those of manuals associated with Liebert’s prior art ICS and DS/3-DX environment control units. *See, e.g.*, Vertiv Invalidity Contentions, Exs. C-20 (DS/3 Operation Manual), C-21 (ICS Operation

Manual), C-26 (DS/3 – DX System), and C-27 (ICS System). There is no good faith basis for Plaintiffs to assert that features developed by Liebert many years before the ‘179 patent now somehow infringe any valid claim of that patent.

Vertiv has identified numerous other prior art references that would plainly invalidate the ‘179 claims if the claims are broad enough to cover the conventional use of regulating valves to control the flow of liquid coolant to air conditioning units, as Plaintiff’s apparently assert here. *See, e.g.*, Vertiv Invalidity Contentions, Exs. C-1, C-2, C-4 to C-12, C-14 to C-19, and C-24.

Even under an appropriate reading requiring controllable partitions for regulating the flow of cooled air, the ‘179 patent claims are facially invalid. For example, U.S. Patent Publication No. 2004/0065097 (Bash), an application filed by HPDC, is prior art to the ‘179 patent but was not cited to the USPTO despite HPDC’s duty of candor. In the manner that Plaintiffs’ broadly apply the claimed concept of “zones,” the Bash publication anticipates every asserted claim. *See* Vertiv Invalidity Contentions, Ex. C-3 (Bash). Numerous other prior art references also anticipate. *See, e.g.*, Vertiv Invalidity Contentions, Exs. C-6 (Collier), C-14 (Nakanishi), C-16 (Patel ’104).

5. U.S. Patent No. 6,854,287 (“the ‘287 patent”)

Finally, allegations that DRT’s use of Vertiv cooling equipment infringes valid claims of the ‘287 patent also cannot be maintained in good faith. The asserted claims of that patent require, *inter alia*, “supplying [a] plurality of heat exchangers with cooling fluid from an air conditioning unit.” The infringement contentions refer to Vertiv DSE computer room air condition units where refrigerant cooling fluid flows through an evaporator heat exchanger. However, the refrigerant circulates in a closed loop consisting of a single heat exchanger, not a plurality of heat exchangers. Plaintiffs also point to Vertiv CW cooling systems where air is cooled by a chilled water heat exchanger. The chilled water is supplied from a dedicated chiller or a building-chilled water system, not from an “air conditioning unit” as claimed. Any use by DRT of Vertiv DSE or CW cooling units does not infringe for at least these fundamental reasons.

Furthermore, the accused Vertiv DSE and CW cooling systems are identical in all relevant respects to prior art versions of those systems sold by Liebert. Here, again, every feature of the Vertiv cooling systems identified in Plaintiffs’ infringement contentions was present in the earlier versions sold and publicly promoted by Liebert many years before the priority date of the ‘287 patent. For example, Plaintiffs’ infringement chart points to a chilled water control valve for regulating chilled water flow in the Vertiv CW cooling system in response to sensed room temperature conditions. The Liebert CW systems sold in the United States many years before the August 2, 2002 priority date also had identical features and capabilities, which are described nearly identically in the prior art documentation provided. *See* Vertiv Invalidity Contentions, Exs. B-14 (DS/3 Operation Manual); B-18 (DS/3 – CW). Plaintiffs also point to the capability of Vertiv DSE units to circulate chilled water/glycol cooling fluid through the cooling coil in a fluid economizer mode of operation. That feature was present in DS/3-DX systems sold beginning in the mid-1980s. *See* Vertiv Invalidity Contentions, Ex. B-14 (DS/3 Operation Manual), B-19 (DS/3

– DX). It was also present in the related ICS system sold beginning in the mid-1990s. *See* Vertiv Invalidity Contentions, Ex. B-15 (ICS Operation Manual), B-20 (ICS). Fan speed control, also mentioned in Plaintiffs’ contentions, was also a core feature of the prior art Liebert systems. *See* Vertiv Invalidity Contentions, Ex. B-18 (DS/3 – CW). The same is true of the alarm features, two-stage compressors, and pumped refrigerant economizer features referred to in Plaintiffs’ infringement contentions. *See, e.g.*, Vertiv Invalidity Contentions, Ex. B-5 (Lancia), B-14 (DS/3 Operation Manual), B-15 (ICS Operation Manual), B-18 (DS/3 – CW), B-19 (DS/3 – DX), B-20 (ICS).

Furthermore, under a proper, more restrictive reading of the ‘287 patent claims, these are still clearly invalid as anticipated by additional prior art provided in Vertiv’s Invalidity Contentions, such as the Liebert RackCooler System, U.S. Patent No. 6,006,528 to Arima, and U.S. Patent No. 5,467,609 to Feeney (also procured by Liebert). *See, e.g.*, Vertiv Invalidity Contentions, Ex. B-1 (Arima), B-3 (Feeney), B-16 (RackCooler Brochure), B-21 (RackCooler System).

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In view of the above, Plaintiffs need to immediately dismiss their claims against DRT related to Vertiv equipment with prejudice. Failure to do so will, at a minimum, justify the Court awarding attorneys’ fees to Vertiv under 35 U.S.C. 285, and Vertiv intends to pursue that relief if Plaintiffs continue with these allegations. *See, e.g., Lumen View Tech. LLC v. Findthebest.com, Inc.*, 811 F.3d 479 (Fed. Cir. 2016); *Iris Connex, LLC v. Dell, Inc.*, 235 F. Supp. 3d 826, 831, 831-833 (E.D. Tex. Jan. 17, 2017) (awarding fees by J. Gilstrap where plaintiff filed a series of suits applying an unreasonably broad claim construction, reasoning that the award was reasonable because “the entire thrust of Section 285 is to deter”).

Sincerely,

A handwritten signature in blue ink that reads "Timothy P. Maloney". The signature is written in a cursive, flowing style.

Timothy P. Maloney